Findings and Recommended Actions

Key Findings

1. California is shaped by its richly diverse people, environments, businesses, land uses, climates, and also by its variable hydrology. Sustainable water management in California requires full consideration of the diverse uses of water and the variable nature of its temporal and geographic distribution. With its current population and water use patterns, California has sufficient resources to meet most water management objectives in most years. Water management challenges persist on local and regional scales and are pronounced in years of extreme hydrology.
    a. Urban areas use about the same amount of water today as they did in the mid-1990's, accommodating a population growth of over 3.5 million largely through increased water use efficiency and recycling.
    b. Most agricultural demands are met in average water years and improvements in agricultural productivity and efficiency over the past 25 years have increased crop production per acre-foot of water by 50 percent.
    c. More water has been dedicated for restoring impacted ecosystems, but some requirements and environmental needs are not always met.
    d. California continues to rely on an unsustainable overdraft of some of its groundwater basins which further reduces available water supply and, in some areas, degrades groundwater quality.
    e. In many areas, surface and groundwaters are impaired by natural and human-made contaminants, degrading environmental resources, threatening human health, and increasing water treatment costs.
2. During multiyear droughts, conflicts increase among water uses. Water supplies are increasingly unreliable, jeopardizing the world's fifth largest economy and 9 million acres of highly productive irrigated agricultural lands. California's unique and irreplaceable ecosystems are strained and many sensitive species are placed in further risk. Water quality is degraded, making it difficult and expensive to meet drinking water standards. Groundwater basins are significantly depleted, and many rural residents dependent on small water systems or wells experience limited water supplies.
3. A number of plausible future scenarios were considered for this Water Plan Update and will be quantified for the next five-year Update in 2008. For consideration now, initial estimates were made of water conditions in 2030 under a "Current Trends Continued" scenario. Under this scenario, to serve 17 million more Californians, sustain California's economy and agricultural industry, meet environmental water objectives, and eliminate groundwater overdraft, California's additional water needs could be between 3.5 million and 6 million acre-feet greater than under today's average water year conditions. Moreover, the potential for conflicts among water uses could be further elevated during multiyear droughts, when California's water

resources will be further stretched to provide reliable supplies, protect water quality, and meet the needs of the environment

4. This Water Plan Update features an Implementation and Investment Guide with 25 different resource management strategies that will provide local, regional and statewide planners a diverse set of investment choices for both the near term (next 10 years) and long term (to 2030). The Guide is summarized in the table below and described in Chapter 6
    a. The Guide includes numerous water management strategies, such as water use efficiency, recycling, storage, conveyance, water transfers and desalination; as well as strategies for groundwater remediation; improving water quality; restoring ecosystems; managing watersheds, urban and agricultural lands, urban runoff and floodplains; improving recreational opportunities; and providing economic incentives.
    b. Planners can select from these strategies according to their needs and water management objectives. The guide indicates which of a dozen water management objectives each strategy can contribute.
    c. While not additive, the water supply benefits of these strategies (including reducing demand, improving the efficient use of existing supplies, and augmenting supplies) are comparable to and could exceed the additional water needs estimate for 2030 average year conditions under a "Current Trends Continued" scenario (see Finding 3). Moreover, thoughtful implementation of these strategies could help reduce conflicts among water uses during multiyear droughts, protect water quality, meet the needs of the environment, and provide for other regional water management objectives.
    d. To realize the full potential outlined in the Guide by 2030, California will need significant and continuous investments in regional integrated planning and project implementation, in actions to reduce implementation challenges, in more public and private partnerships, and for better data and analytical tools. This Water Plan estimates the total needed investment to be about $75 billion through the year 2030. ***[placeholder $ - staff is working on total cost]***
    e. While it will be necessary for water users to pay a significant portion of these costs through their local agencies and local government, State and federal funds should be invested to provide incentives to local agencies to implement balanced integrated regional plans, underwrite research and development of promising technologies, and in actions that provide broad public benefit. A working rule adopted for this Water Plan assumes that the total necessary investment would be allocated approximately in thirds to local, State, and federal governments. Under this approach, the State of California would need to invest about $1 billion annually in public funds over the next 25 years. This is comparable to the current level of State investment through several water bonds approved by voters since 1996.
5. Throughout California stakeholders are beginning to work together in their regions and watersheds to develop programs that include multiple jurisdictions and provide

multiple resource benefits. Regionally-based planning efforts are integrating a broader range of water management activities than historically thought to be available.

6. Unless California continues to invest significantly in a diverse and balanced portfolio of water management strategies, our economy, environment and quality of life will decline. Groundwater overdraft will worsen, water quality will decline, aquatic ecosystems will be further stressed, and California's economy and agricultural industry will suffer.

Additional Findings

1. California's population has increased by about 6 million people since the drought of 1987-1992. The current population of over 36 million is projected to increase by another 17 million people to 53 million by year 2030.
2. Electronic, aerospace, agriculture, banking, film, tourism and recreation industries have created a $1.4 trillion economy, the fifth largest in the world. Efficient management and development of sufficient, reliable and sustainable water supplies are key to the state's economy, environment and quality of life.
3. California is the top agricultural producer in the nation. The State contributes over half of the nation's fruit, nut, and vegetable production. Providing food and fiber crop products to Californians, as well as to other states and countries, consumes more water than is consumed by all other household needs. In some areas agricultural water supplies have been reduced by water transfers to urban areas or to environmental restoration projects and from increased groundwater overdraft.
4. California has unique environmental diversity, leading the nation in the number of native plant and animal species. However, California has experienced aquatic and riparian habitat degradation and freshwater biodiversity declines throughout the state. On many rivers and streams, flows do not resemble natural hydrographs, contributing to impaired ecosystem functions, loss of species, impacts on commercial fisheries, and degraded water quality.
5. Many Native Americans have unmet water needs. In the North Coast region thousands of Native Americans do not have water piped to their homes. A large part of the tribal water needs are for instream flows and other water bodies that support environmental and cultural practices for fishing, hunting, and trapping.
6. As a result of global climate change California hydrology will not be the same as we have experienced in the past century. While many uncertainties remain, primarily on the degree and timing of change to be expected, it is likely there will be significant reductions to the Sierra snowpack. This has major implications for water supply, flood management and ecosystem health.
7. Existing data and analytical tools are not capable of sufficiently answering all relevant questions. As California's water demands grow and change, the need for more accurate information becomes critical for gaining greater efficiencies from

limited resources and reducing controversy and conflicts in adapting our water system to new demands.

8. Most funding, authority and expertise for water management are within local and regional agencies, and not necessarily in State or federal agencies.

Key Recommended Actions

1. Make the needed local State and federal investments in the actions outlined in the Implementation and Investment Guide to meet 2030 water management needs. These actions are consistent with and inclusive of actions included in the California Bay-Delta Program Record of Decision as implemented by the California Bay-Delta Authority, and the recommendations of the Water Desalination Task Force, the State Recycling Task Force, the Stormwater Quality Task Force, the Floodplain Management Task Force, and California's Groundwater (DWR Bulletin 118-03).
2. The State recognizes the critical role regions must play in California water planning and management and should provide regions incentives and assistance to plan and implement multi-objective, diversified water portfolios, planned to the extent practicable on a watershed basis. DWR should provide regions with guidance and technical and administrative assistance to support their integrated regional planning.
3. The State should carry out its constitutional, statutory, and regulatory responsibilities for leading, planning and overseeing many aspects of managing California's water resources that the regions cannot accomplish on their own.
4. Encourage cities, counties and LAFCO's to include a Water Element in their next General Plan update to improve coordination of land use planning and water planning and management. The State provides regional and local planners with technical, administrative and financial assistance in implementing legislation such as SB 221 and 610 and related State policies.
5. The State exercises continued supervision over its navigable waters and the lands beneath them to protect the public's rights to commerce, navigation, fisheries, recreation, ecological preservation and related beneficial uses. Public agencies take the public trust into account in the planning and allocation of water resources, and to protect public trust uses, whenever feasible.
6. The State expands the role of California's Native Americans at all stages of the state's water planning process, provide assistance as needed for their participation, and with federal government cooperation, assist in recognizing and accommodating tribal needs.
7. The State ensures that environmental justice is afforded to all Californians, particularly disadvantaged citizens and vulnerable communities that have experienced disproportionate health and environmental impacts.

8. Work with researchers to better monitor and predict the effects of global climate change on California's water systems and the environment by developing alternative climate change flow data to test their potential effects.

Additional Recommended Actions

1. As soon as practicable, a Governor's Strategic Water Team is established to strengthen communication, coordination and cooperation among State departments dealing with water, and to ensure that their strategic planning and implementation are consistent with the Governor's water policies.
2. The State's plan and infrastructure investments are consistent with the three legal requirements of Government Code Section 65042: promote infill development and equity; protect environmental and agricultural resources; and encourage efficient development patterns.
3. DWR develops and maintains the California Water Plan Information Exchange (Water PIE), a data management system to assist regional and local agencies and governments prepare their integrated resource and watershed plans.
4. DWR, in cooperation with other local, State and federal entities, implements the work plan to improve the data and analytical tools for subsequent phases and updates of the Water Plan and regional planning efforts.
5. DWR continues to develop future updates to the California Water Plan with the active input of a diverse Advisory Committee.

The Implementation & Investment Guide Table Goes Here

2-Page IIG Table is provided as a separate file for this draft (Jan. 13, 2004 version)

Staff is working on a 1-Page version of the IIG Table

Chapter 1
Plan Overview

Introduction

This update of the California Water Plan provides decision-makers, resource managers, water suppliers and all water users a state-of-the-art strategic water plan for the next quarter century with specific goals, objectives, findings and a robust set of recommended actions. This strategic water plan:

- Presents durable and achievable actions that, if implemented, will assure adequate, reliable and sustainable water of suitable quality for all beneficial uses to the year 2030.
- Articulates the costs, benefits, tradeoffs and implementation difficulties of the recommended actions to help decision-makers and resource managers make informed decisions on the mix of actions best suited to their needs.
- Recommends ways to assist and support local and regional planners to develop regional integrated resource plans, implement diverse management strategies, and coordinate land use planning with water planning and management.
- Recommends ways to strengthen the State of California's leadership, coordination, oversight and public investment to protect, manage and develop the state's water resources as a public trust asset and to maintain its water infrastructure.
- Outlines a process to improve data and analytical tools to make future Water Plan updates more precise and improve public access to water information.
- Identifies needed investigations and research and develop of promising technologies.

The California Water Plan is the State's strategic plan for managing and developing water resources statewide. The California Water Plan was first published by DWR as Bulletin 3 in 1957. Since then, DWR has prepared seven Water Plan Updates, published as the Bulletin 160 series. The Water Code requires DWR to update the California Water Plan every five years. DWR published the last Update in 1998.

Organized in five volumes, this Plan includes the following information in support of the recommended actions in the Water Plan Implementation and Investment Guide**:**

- The condition of California's water resources and system, including estimates of statewide water supplies and uses, and how water is managed, allocated, used, and regulated in California (Chapter 2).
- Significant uncertainties and risks that impact water planning, including extreme hydrologic events like multi-year droughts; several plausible scenarios for estimating future water supplies and uses; and a work plan for filling data gaps and developing analytical tools for subsequent phases and updates of the Water Plan (Chapter 3).
- Practices, issues, roles and strategies for improving regional integrated resource planning and management, including 25 resource management strategies in the Implementation and Investment Guide (Chapter 4 and Volume 2).
- The State's role, responsibilities and commitments in fostering improved local and regional planning and management, and principles for providing State assistance (Chapter 5).
- Reports on each of the 10 hydrologic regions, mountain counties, Sacramento-San Joaquin Delta, and southern California area (Volume 3 Regional Reports).
- Supplemental information (Volume 4 Reference Guide).
- Documentation on data, tools and methods (Volume 5 Technical Guide).

This Water Plan Update is based on the best available data and information and input from an active and diverse Advisory Committee. It also documents gaps in data and analytical tools. Prepared in a phased work plan, the Department of Water Resources will further quantify and improve estimates for future water supplies and uses presented in this report over the next two years. As a strategic plan, the findings, recommendations and the action plan presented will be periodically reviewed and revised; DWR will publish five other Water Plan Updates during this Update's planning horizon to 2030.

The Water Plan

Vision for 2030

California has adequate, reliable and sustainable water of suitable quality for all beneficial uses.

Goals for 2030

- Improved quality of life for a projected 53 million Californians, 17 million more people than today.
- Sustained economic growth, business vitality and agricultural industry.
- Protected and restored ecosystems.
- Environmental justice for all Californians.
- Stronger State leadership, coordination, and oversight and more public investment to protect, manage and develop the state's water resources as a public trust asset and to maintain its water infrastructure.
- Regions play the central role in their integrated water and resource planning, with State assistance based on recommended incentives and principles.
- Local and regional planners diversify and increase the management strategies in their integrated resource plans, with State support and assistance.
- Local governments and agencies improve the coordination of land use planning with water planning and management.
- State-supported investigations, and research and development of promising new technologies.
- Planners make more informed (and less risky) decisions for statewide, regional and local water management.
- Fewer gaps in data and analytical tools, and better public access to water information.

Water Management Objectives for Meeting Goals

- Integrate & optimize management strategies
- Provide water supply benefits
- Increase drought resiliency
- Improve water quality
- Increase operational flexibility & efficiency
- Improve flood management
- Increase energy generation or reduce use
- Increase recreation opportunities
- Enhance instream, riparian or terrestrial ecosystems
- Reduce groundwater overdraft
- Reduce pollution
- Reduce runoff, drainage or tailwater
- Reduce uncertainty or minimize risk

Implementation and Investment Guide

The recommended actions for State, federal, regional and local entities are summarized in the Implementation and Investment Guide Table (details in Chapter 6). If these actions are implemented, we can meet the Water Plan's goals and achieve the water management objectives for 2030. This Guide was developed with broad public input and is consistent and inclusive of the commitments and recommendations of other recent water planning processes including the CALFED Bay-Delta Program Record of Decision (currently designated as the California Bay-Delta Program and overseen by the California Bay-Delta Authority), the Water Desalination Task Force, the State Recycling Task Force, the Stormwater Quality Task Force, the Floodplain Management Task Force, and California's Groundwater (DWR Bulletin 118-03).

Water Plan Implementation and Investment Guide Table

The Guide lays out actions for improving statewide water planning, regional integrated resource planning, improving data and analytical tools, and expanding State support for investigations, research and develop of new technologies and management strategies. The Guide also includes 25 resource management strategies available to regions to diversify their water portfolios assets.

The table shows activities, programs, and resource management strategies for **implementation** and those needing additional **investigation, research and development** for the **near-term (to 2010)** and the **medium/long-term (2011 to 2030)**. For each action, the table includes potential supply benefits (if applicable and available), water management objectives achieved by implementing the action, and estimated implementation cost (not including operation and maintenance cost).

To realize the actions in the Implementation and Investment Guide, California needs regional integrated planning in all regions of the state, significant local, State and federal investments, additional public and private partnerships, and better data and analytical tools. This Water Plan estimates the total needed investment to be about $75 billion to the year 2030, not including funds to maintain existing water infrastructure. While this required investment appears daunting, the return in sustaining California's economy, preserving the standard of living of its inhabitants, and safeguarding the State's precious environment and natural resources will far exceed the costs. **[placehoder $ - staff is working on total cost]**

Water users will likely pay a significant portion of these costs through their local agencies and local government. However, State and federal funds should be invested to provide incentives to local agencies to implement balanced integrated regional plans, underwrite research and development of promising technologies, and advance actions that provide broad public benefit. A working rule adopted for this Water Plan assumes that the total necessary investment would be allocated approximately in thirds to local, State, and federal governments. Under this approach, the State of California would need to invest about $1 billion annually in public funds over the next 25 years. This is comparable to the current level of State investment through several water bonds approved by voters since 1996.

The various elements of the California Bay Delta Program are an integral part of the Water Plan Implementation and Investment Guide. These programs include projects for improving water supplies, conveyance, water quality, watershed health, the Bay-Delta ecosystem, water use efficiency and levee system integrity. Those actions identified for implementation during Stage 1 of the Bay Delta Program are identified as near-term actions.

The potential supply benefits shown in the Implementation and Investment Guide Table may not be additive because various strategies can compete for the same water, such as surface storage and conjunctive management. Also, some water transfers constitute a reallocation of water (change of use of existing supplies) and would not augment supplies from a statewide perspective, even though they may serve as additional water from a local perspective. Moreover, decisions regarding the specific strategies that local agencies include in their integrated regional plans should be driven by the broad water management objectives of the region – not simply the water supply objectives. While water supply needs are often the most easily quantifiable objectives, protecting water quality, improving flood management, increasing drought resiliency, enhancing ecosystems, and other important objectives must all be considered when developing sustainable plans.

Resource Management Strategies To Diversify Regional Integrated Plans

This Water Plan Update includes information on 25 different resource management strategies (details in Chapter 4 and Volume 2 Resource Management Strategies) available to regional and local planning efforts. The State encourages resource planners and managers to examine all of these strategies to identify the combinations of management strategies that are uniquely suited to their regional setting and goals, and which are cost effective, environmentally sound and socially equitable, in other words, sustainable. The more a region can diversify its water management portfolio, the more robust and resilient it will be in facing future unknowns, and the more it will be able to leverage and utilize its regional assets. To accommodate the uncertainties with each of these strategies, it is prudent, at least through the planning stages, to pursue an extra margin of water supply, demand reduction and ecosystem restoration capability.

Resource Management Strategies

Agricultural lands stewardship
Agricultural water use efficiency
Conjunctive management & groundwater storage
Conveyance
Desalination
Drinking water treatment and distribution
Economic incentives policy
Ecosystem restoration
Floodplain management
Groundwater/Aquifer Remediation
Matching water quality to use
Pollution prevention
Precipitation enhancement
Recharge area protection
Recycled municipal water
Surface storage – Bay Delta Prog/State
Surface storage - regional/local
System reoperation
Urban land use management
Urban runoff management
Urban water use efficiency
Water transfers
Water-dependent recreation
Watershed management
Other research and development

The Guide includes numerous water management strategies like water use efficiency, recycling, storage, conveyance, water transfers and desalination; as well as strategies for groundwater remediation; improving water quality; restoring ecosystems; managing watersheds, urban and agricultural lands, urban runoff and floodplains; improving recreational opportunities; and providing economic incentives.

While DWR does not have authority or responsibility over all the resources covered by these strategies, they are presented in this Water Plan to provide a "one-stop shop" for resource managers and regional planning efforts. The strategy narratives and their related recommendations are designed to recognize the many interactions between water and other resources. DWR worked with other State agencies and departments that have authority over these resources to accurately articulate State policies and plans for these resources as they relate to the resource management strategies.

The management strategy narratives are based on the best available information, but supporting data for each strategy are currently not available to the same accuracy. In some cases, these are fairly rough estimates with large ranges. DWR will initiate additional analyses under Phases 2 and 3 of the Water Plan Update process to provide policy makers and resource managers with more quantitative information on the performance of various strategies on a regional basis, including interactions between strategies, and potential groupings or packages of strategies.

Implementation of some strategies will be difficult and expensive and the State will need to work with regional and local planners to find solutions to the obstacles and constraints identified in the strategy narratives. For instance, with water transfers there are concerns with third party impacts. With ocean water desalination there are concerns with water intake and brine disposal. For new surface and groundwater storage projects there are questions about impacts of diversions on the rivers that would provide the water. With agricultural water use efficiency there are potential effects on downstream users (agricultural, urban and environmental) that depend on return flows to meet their water demands.

Principles for Providing State Assistance

Because the demand for State assistance exceeds resources and funding,the Water Plan includes nine principles, described in Chapter 6 (Implementation and Financing), for providing State assistance and public funds to regional and local planning efforts and projects. The following nine principles can serve as criteria for competitively scoring proposals from local water agencies and governments applying for State grants and loans:

1. Has, or is developing, a long-term, integrated resource plan
2. Identifies benefits, beneficiaries & mitigations
3. Promotes sustainable resource management
4. Provides environmental benefits
5. Increases regional self sufficiency

6. Increases regional drought resiliency
7. Promotes environmental justice
8. Promotes communication, coordination, cooperation & collaboration among local agencies & governments
9. Uses sound science, best data and local knowledge

Consequences of Inaction or Delayed Implementation

We need aggressive and comprehensive implementation of the Water Plan's actions and recommended actions to reduce the key risks facing California water management, which include: multiyear droughts, contaminated supplies and more stringent water quality regulations, global climate change, unpredictable floods, vulnerability to catastrophic events, significant gaps in data and a lack of analytical tools. The recommended actions in this Water Plan Update were developed to respond to the challenges facing California water resources and to reduce the risks associated with uncertainty about future water supplies and demands.

These challenges and risks will continue and worsen with State, federal government and local agency and government inaction or delayed realization of the Water Plan. Unless action is taken, groundwater overdraft will worsen, aquatic ecosystems will be further stressed, California's economy and agricultural industry will suffer, and the current collaboration among stakeholders will erode. Collaboration between local, regional, State and federal planners is an essential ingredient for regional integrated resource planning to succeed.

It is noteworthy that by statute the California Water Plan can not mandate actions nor authorize spending for its recommendations. As a strategic plan, the Water Plan does not make project-specific or site-specific recommendations, and, therefore, does not include environmental review and documentation as required by the California Environmental Quality Act (CEQA). Consequently, policy and law-makers must take further action to provide public funding and to adopt the actions recommended in this Water Plan. This underscores the need to have broad stakeholder and public participation and support for the Water Plan if its recommendations are to be realized.

New Planning Framework and Phased Work Plan

In accordance and guided by the statutes of the Water Code, the Department of Water Resources and an active 65 member Advisory Committee, with input from a 320 member Extended Review Forum, prepared this Water Plan Update by first developing a new planning framework to increase its utility and usefulness.

The Advisory Committee is comprised of 65 representatives of agriculture, urban water districts, businesses, environmentalists, Native Americans, environmental justice advocates, cities, counties, federal and State agencies, the California Bay Delta Authority, academia, and different regions of the State.

DWR and the Advisory Committee believe that the new framework is one of the significant accomplishments of this Water Plan and should serve as the cornerstone for future updates because the framework: (1) considerably expands public involvement and access to the State's water planning process; (2) seeks collaborative recommendations that are more robust, have greater longevity and are more likely to be adopted by the Governor's Office, Legislature, State, federal and local agencies and governments, and resource managers; and (3) results in a strategic plan, which is a living document with stated goals, objectives, and implementation plan, including progress tracking, indicators and reports.

Extended Review Forum, composed of individuals with a high interest in the process attended periodic briefings and received invitations to advisory committee and work group meetings as well as updates on key developments. With more than 320 members, this group represents an even broader range of interests than the advisory committee.

The new planning framework consists of:

1. Collaborative planning process
2. Comprehensive way for describing current and future water supplies, uses and management (Water Portfolios with over 80 categories) using actual data (not trend-based) for recent yet different water year types, namely1998 (wet), 2000 (average), and 2001 (drier);
3. Detailed reports on each of the regions of the state;
4. Multiple scenarios for plausible futures (not a single "likely" future) to identify and minimize future uncertainties and risks; and
5. Many diverse resource management strategies to meet future water demands while sustaining our resource base and economy.

This Public Review Draft of the Water Plan marks the end of the first of a three-phase work plan for completing Update 2003 of the Water Plan and beginning Update 2008. Important elements of the new framework, notably future scenarios for regional planning

and multi-year drought analysis, will be completed in subsequent phases in 2004 and 2005. DWR and the Advisory Committee developed the phased work plan (presented later in this chapter) to balance stakeholder interest to take the time required to implement the new framework, on the one hand, with the need for the State to provide the next Water Plan Update in a timely way, on the other. The phased work plan was needed because: (1) DWR and the Advisory Committee want to more fully implement the new framework; (2) we do not yet have stakeholder agreement on the data, analytical tools and methods that DWR would use to quantify and analyze multiple regional scenarios for 2030 including multi-year droughts, and optional management responses; (3) DWR's schedule for conducting data analyses was impacted by the time needed to develop the new framework; and (4) DWR's budget and staff resources were reduced during this update cycle.

Phased Work Plan

The Department of Water Resources and the Advisory Committee are preparing the Update in three phases.

Phase 1 (2003): Developing a circulation draft for wide public input. This phase describes the State's water situation and what should be done about it, including:

- Data on current water uses and supplies for years 1998 (wet), 2000 (normal), and 2001 (a dry year).
- Recommendations for policies, programs and investment strategies that will help develop water resources, make better use of existing supplies, and protect the environment.
- Recommendations for furthering integrated regional planning
- A work plan including criteria and methods for selecting and testing data and analytical tools for Phases 2 and 3 (short term) and for future Water Plan Updates (long term).

Phase 2 (2004): With a document planned for delivery in 2004, this phase provides the final Update 2003, which will include revised policy recommendations based on wide public input and numerous public hearings. It also documents the data and analytical tools DWR will use in Phase 3 to further evaluate several future scenarios and water management responses. This modification was made after recognizing data and tools budgeted for and used in past Water Plan Updates were not sufficient for the greatly expanded, legally required planning elements and preferred analytical approaches.

Phase 3 (2005): In 2005, DWR will begin work on Update 2008, again including full participation by a broad Advisory Committee. DWR will begin to evaluate a set of water-planning scenarios using the data and tools identified in Phase 2; use a water flow diagram to present evaluation results for future wet and dry years; and receive a California Department of Food and Agriculture food forecast for estimating future irrigated crop-water use. DWR will report its findings from these evaluations as they become available as part of the Update 2008 process.

Advisory Committee and Outreach

This Update recognizes the vital importance of working with key stakeholders to define issues, identify potential approaches, and evaluate planning steps. Since January 2001, DWR and an Advisory Committee representing critical sectors with an interest in water management have worked to shape the new planning framework and strategic planning process. Utilizing large group meetings held roughly every six weeks for three years, more frequent smaller work groups and workshops, and many public briefings, DWR sought a broadly informed and consensus-seeking process. Advisory Committee members provided DWR with substantial suggestions and recommendations on all aspects of Update 2003 (see the adjacent table for collaboration statistics to date).

Collaboration Statistics

Type of Meeting	Meetings	Person-Hours
Advisory Committee	32	9,855
Workshops	32	2,260
Work Groups	62	4,271
Extended Review Forum & Organizational Briefings	16	426
Tribal Outreach	3	Pending
TOTALS	**145**	**16,812**

The role of the Advisory Committee was to provide diverse perspectives and to the fullest extent possible meet the interests of all Californians and the natural environment. The group was called upon to provide DWR with suggestions and conclusions on every aspect of Update 2003, including developing goals and strategies for water management in California.

As a consensus-seeking process, the Advisory Committee strove to reach consensus on the purpose, content, and process of Update 2003. The support of the entire group was always initially sought; however, where time did not permit the resolution of all fundamental concerns with a proposal, the facilitation team captured the range of support and opposition to the proposal as finally worded. Information was then communicated to DWR, the State department responsible for preparing Water Plan updates, for consideration and final decision. Those suggestions approaching consensus received the highest possible consideration for incorporation into the Update.

As part of their membership obligations, Advisory Committee members periodically briefed their constituencies on key Update 2003 developments. Members relayed

comments received during these briefings to DWR. The briefing process helped ensure two-way communication between members and their organizations. In addition, briefings formally expanded the dialogue beyond the precincts of the Advisory Committee meeting room into a wider audience of potential Update 2003 users.

To create a fair, open and transparent process, the California State University Sacramento, Center for Collaborative Policy (Center) provided impartial third party facilitation and mediation design, implementation and refinement for the consensus-seeking process. The Center ensured Advisory Committee members' interests, views, and opinions were thoughtfully considered and advisory committee activities were governed by its own operating guidelines.

The Extended Review Forum and Organizational Briefings: In addition to the formal advisory body, an Extended Review Forum, composed of individuals with a high interest in the process attended periodic briefings and received invitations to advisory committee and work group meetings as well as updates on key developments. With more than 320 members, this group represents an even broader range of interests than the advisory committee. DWR also used other forums, in addition to the extended review forum, to engage other state, federal and local government representatives, local water interests, the public, and media. DWR periodically briefed the Governor's Office, Legislature, and the Resources Agency on the process.

Using the Internet: The Internet provided another principal venue for Advisory Committee work. In its efforts to create an open and transparent public process, DWR used e-government technology to set up web pages and electronic surveys, and used email correspondence and teleconferencing whenever possible. DWR posted meeting agendas, materials, and highlights, including draft copies of Update 2003, for all to see. DWR also posted numerical data for the water portfolios and documentation on the web site for use by Advisory Committees and other interested parties.

Customer surveys: In line with the strategic planning process, DWR conducted a customer survey with people who might use the Water Plan to ultimately make the Update 2003 widely understood and useful. The survey served to expand the audience of government, private and non-profit entities to include land use planners, natural resources planners, environmental and social advocacy groups, business sectors (e.g., agricultural, real estate, financing), professional associations, academic institutions, water planners, wholesalers and retailers, and similar individuals and groups.

Looking at the results across regions, the survey indicates the planning horizon for most users is 2010. The issues of interests for evaluation parallel the Advisory Committee's; they include water quality, cost, reliability, and environmental impacts. And major issues of concern are water quality, reliability, and land use planning.

Stakeholder assessments: In addition to the customer survey, the Center for Collaborative Policy conducted several stakeholder assessments with Advisory Committee members throughout the process. These served as direct feedback

mechanisms for identifying issues for DWR to consider in Update 2003, assessing staff progress for the work at hand, modifying meeting methods, and improving communication channels between DWR and the Advisory Committee and within the Advisory Committee.

The time taken to use a systemic approach for water planning is an investment. However, because of the current investment, future Water Plan Updates won't have to start from scratch in setting up advisory committees, establishing protocols or reinventing planning approaches.